FIG. 1

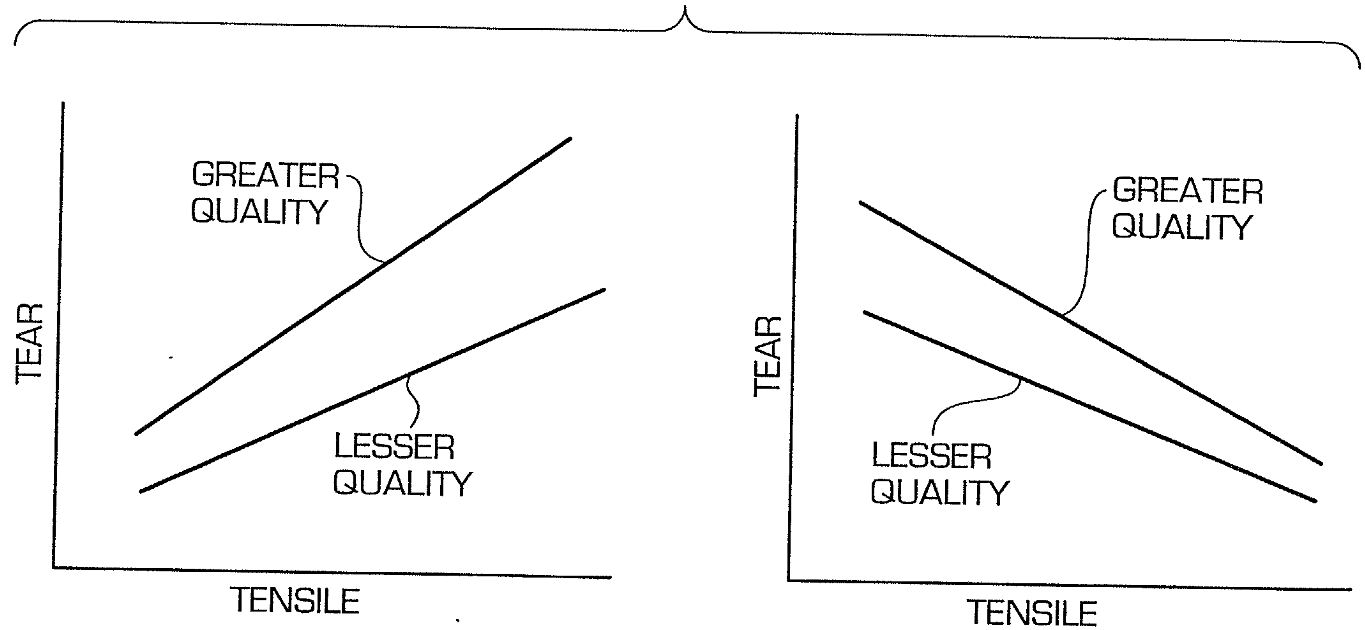
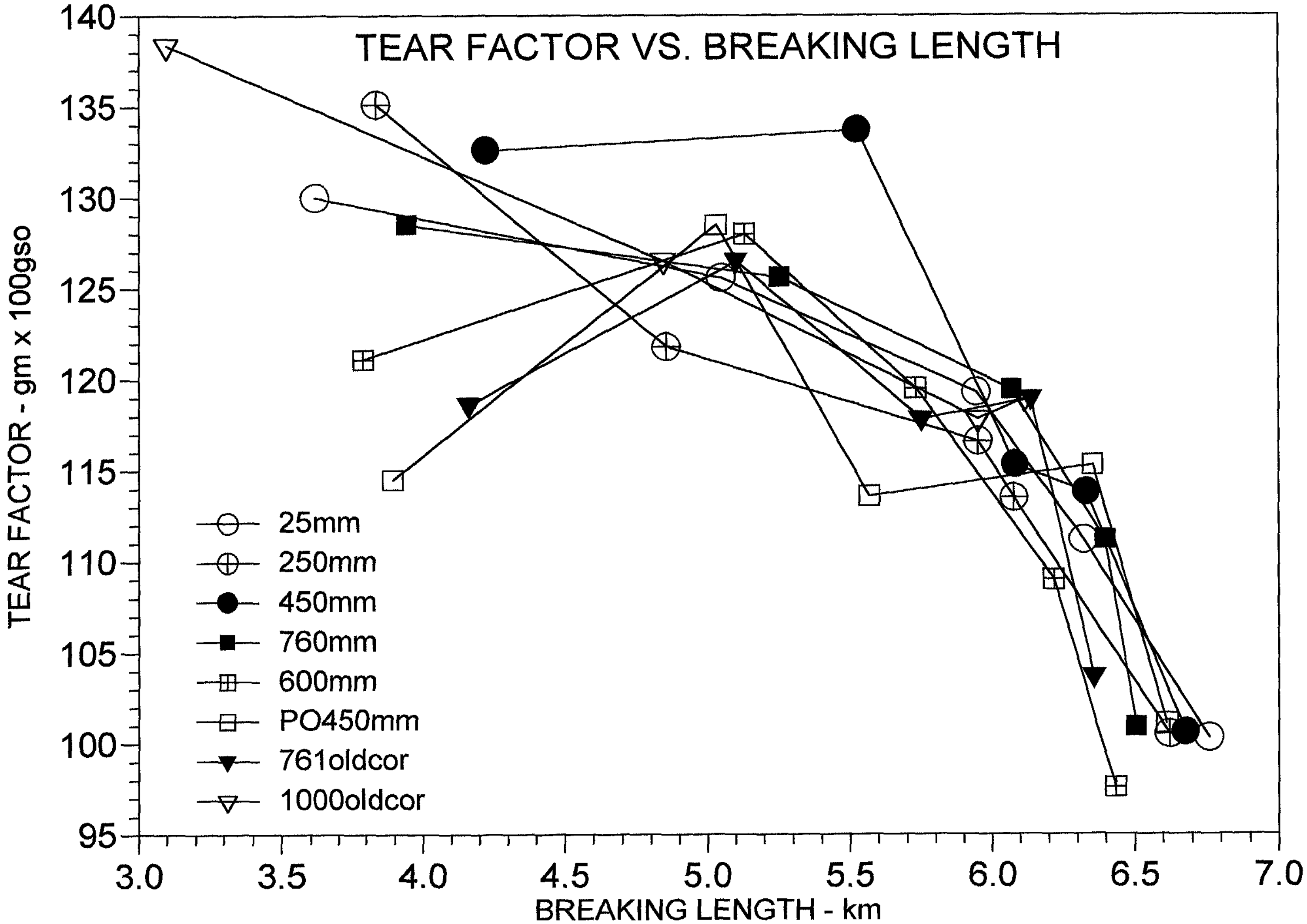

GREATER
QUALITY
LESSER
QUALITY
TEAR
TENSILE
GREATER
QUALITY
LESSER
QUALITY
TEAR
TENSILE

FIG. 2


TEAR FACTOR VS. BREAKING LENGTH
TEAR FACTOR - gm x 100gso
BREAKING LENGTH - km
140
135
130
125
120
115
110
105
100
95
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
25mm
250mm
450mm
760mm
600mm
PO450mm
761oldcor
1000oldcor

Fluid Exchange Process Diagram

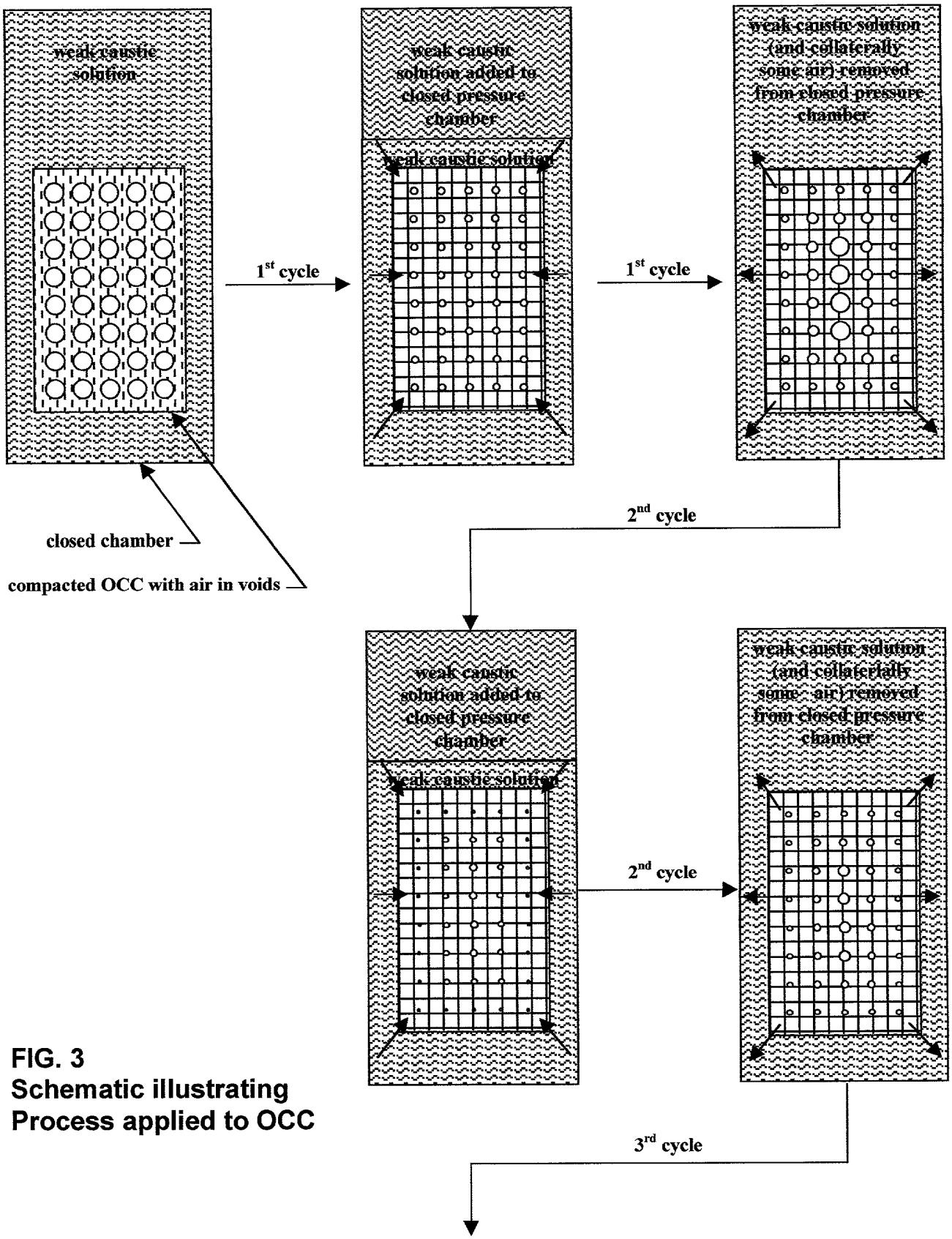


FIG. 3
Schematic illustrating
Process applied to OCC

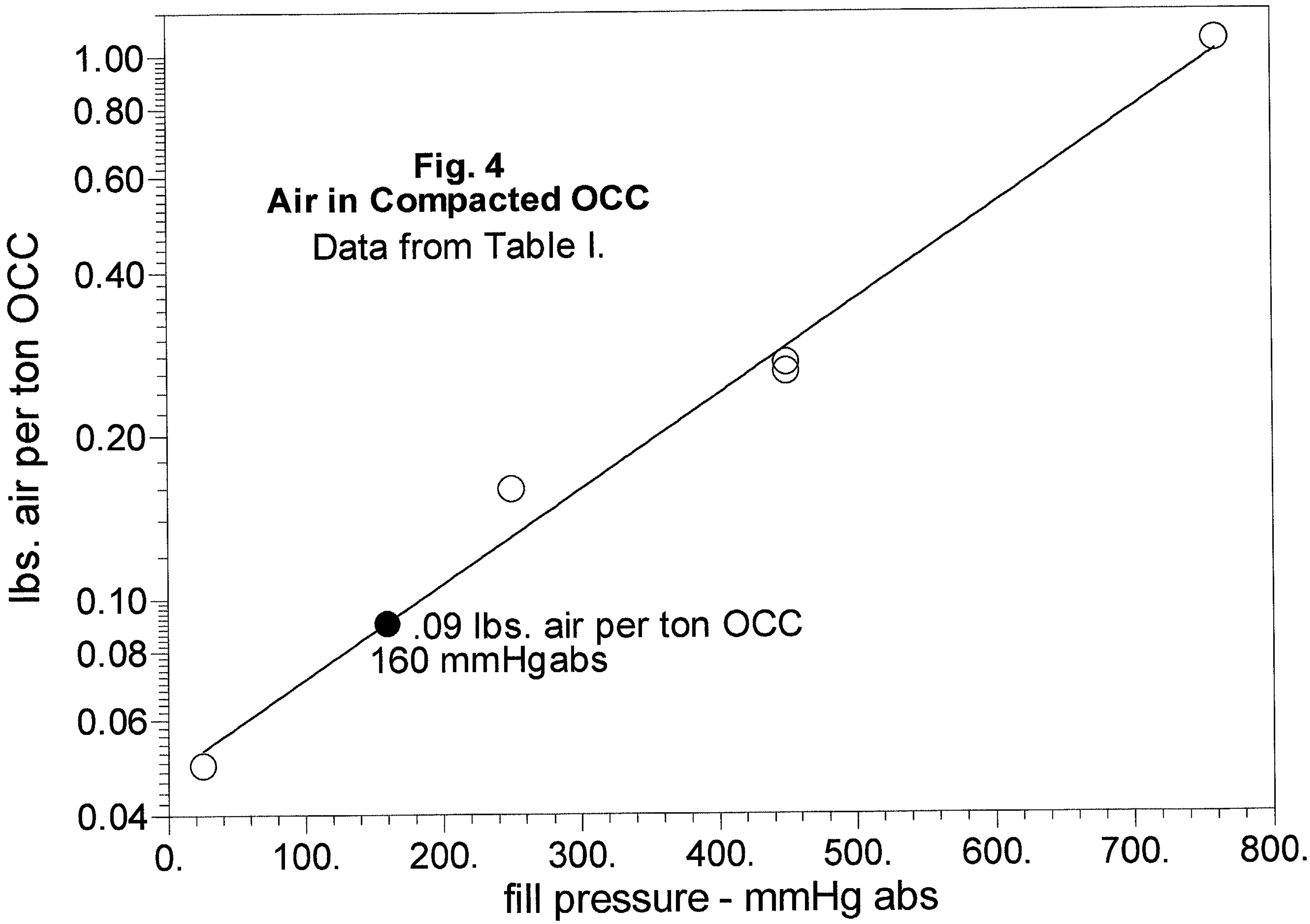


Fig. 4
Air in Compacted OCC
Data from Table I.

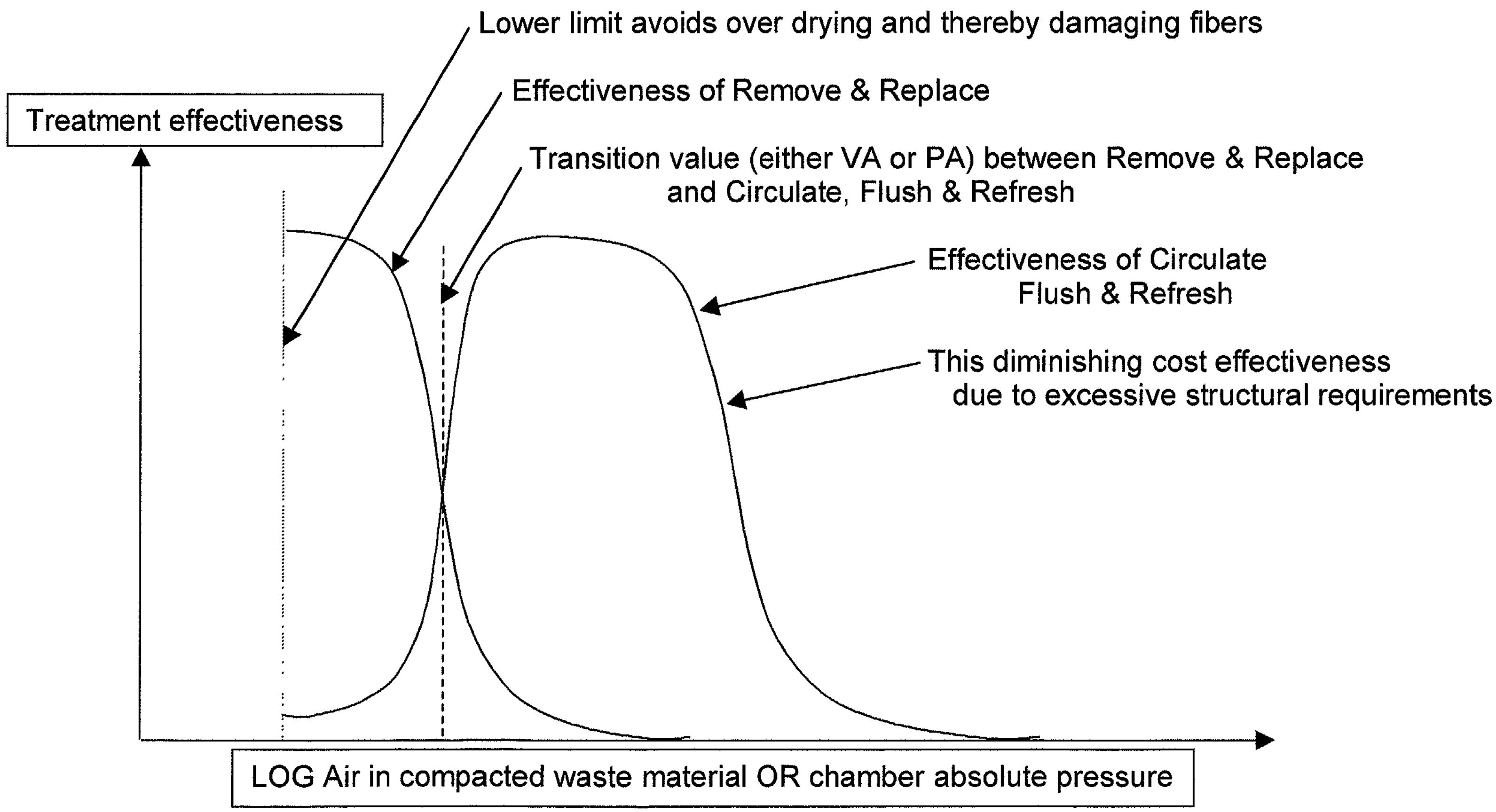


Fig. 5
Domains of Effectiveness of Prior “Remove & Replace” Inventions and of New “Circulate, Flush & Refresh” Invention

Table I.

Air in Compacted OCC

#						
1	Air weight calculations utilizing 400 gram sample of OCC		Equations for sample data point C in column C			
2						
3	Cross-sectional Area 0f Laboratory Closed Pressure Chamber - square mm	4744	C17	$C3*C15		
4	Hg. Density	13.6	C18	C17		
5	Cubic mm/cubic feet	28316847	C19	C17*(C13+C16/$C4)/(C14-C13-C15/$C4)		
			C20	C18+C19		
6	Grams/pound	453.6	C21	(C14+((C16-C15)/$C4))/($C9*$C8)		
7	Pounds/ton	2000				
8	Air std. atm. spec vol. - cubic feet/pound	13.08	C22	(C13+C16/$C4)/($C9 *$C8)		
9	Air std. atm. pressure - mm Hg.	760	C25	((C22*C20/$C5)/(400/$C6))*$C7		
10						
11	Data points	C	D	E	F	G
12						
13	p1 = Fill pressure - mm HG abs	250	25	760.4	450	450
14	p2 = pressure after addtion of air to top of closed pressure chamber - mm Hg abs	5936	767.4	5936	5936	772
15	Drop in free surface of weak caustic soluion after air additionHeight difference - mm	15	30	31	14	6
16	Distance from free surface @ p1 to center of compacted OCC - mm	215	215	215	215	215
17	Weak caustic solution volume forced into compacted OCC by air addtion - cubic mm	71160	142320	147064	66416	28464
18	V1-V2 = Decrease in volume of air in compacted OCC saused by air addtion - cubic mm	71160	142320	147064	66416	28464
19	V2 = Compacted volume @ p2 + (compacted distance down to V2)/13.6 - cubic mm	3327	7846	22066	5640	41233
20	V1 = Initial volume @ p1 + (initial distance down to V1)/13.6 - cubic mm	74487	150166	169130	72056	69697
21	Compacted density in V2 - lbs/cubic foot	0.59861	0.07857	0.59850	0.59862	0.07921
22	Initial density in V1 - lbs/cubic foot	0.02674	0.00411	0.07808	0.04686	0.04686
23						
24	**Fill pressure - mm HG**	**250**	**25**	**760.4**	**450**	**450**
25	**Air in Compacted OCC - lbs. air per ton OCC**	**0.15952**	**0.04937**	**1.05773**	**0.27043**	**0.26158**